

Computing Curriculum Overview KS1 2020 onwards

Pupils should be taught :

- Understand what algorithms are, how they are implemented and that programs execute by following precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Recognise common uses of information technology beyond school
- Use technology safely and respectfully, where they can seek help and support

Year 1	Year 1	Year 2	Year 2
<p>Getting Started Introducing children to logging in and using technology for a purpose, including creating art</p>	<ul style="list-style-type: none"> • Recognising common uses of information technology. • Logging in and saving work on their own account. • Knowing what to do if they have concerns about content or contact online. • Understanding of how to create digital art using an online paint tool • Learning to locate where keys are on the keyboard. • Developing basic mouse skills. <p><i>Cross-curricular links – Art/Design & Maths</i></p>	<p>What is a Computer? Children explore exactly what a computer is, identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention.</p>	<ul style="list-style-type: none"> • Learning about inputs and outputs and how they are used in algorithms. • Understanding what a computer is and the role of individual components. <p><i>Cross-curricular links – DT & Science</i></p>
<p>Programming: Beebots Using Bee-Bots to navigate an area and constructing simple algorithms, through the story of <i>The Three Little Pigs</i></p>	<ul style="list-style-type: none"> • Learning how to explore and tinker with hardware to find out how it works. Constructing a series of instructions into a simple algorithm. • Applying computing concepts to real world situation in an unplugged activity. 	<p>Word Processing Using their developing word processing skills, pupils write simple messages to friends and learn why we must be careful about who we talk to online.</p>	<ul style="list-style-type: none"> • Using word processing software to type and reformat text. • Understanding the importance of staying safe online. <p><i>Cross-curricular links – PSHE</i></p>
<p>Algorithms Unplugged Learning how computers handle information by exploring ‘unplugged’ algorithms – completing tasks away from the computer</p>	<ul style="list-style-type: none"> • Understanding how to create algorithms. • Learning that computers need information to be presented in a simple and clear way. • Understanding how to break a computational thinking problem into smaller parts in order to solve it. 	<p>Programming: Scratch Jr Using the app <i>Scratch Jr</i>, pupils program a familiar story and an animation of an animal, make their own musical instruments and follow an algorithm to record a joke.</p>	<ul style="list-style-type: none"> • Creating and debugging simple programs. • Using logical reasoning to predict the behaviour of simple programs. • Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Using technology purposefully to create, organise, store, manipulate and retrieve digital content.
<p>Digital Imagery Taking and manipulating digital photographs, including adding images found via a search engine.</p>	<ul style="list-style-type: none"> • Using technology purposefully to create, organise, store, manipulate and retrieve digital content. • Knowing what to do if they have concerns about content or contact online. • Using logical reasoning to predict the behaviour of simple programs. • Using cameras or tablets to take photos. <p><i>Cross-curricular links – English: Reading</i></p>	<p>Algorithms and Debugging Identifying problems with code using both ‘unplugged’ and ‘plugged’ systems to diagnose and correct errors in an algorithm – a process known as ‘debugging’.</p>	<ul style="list-style-type: none"> • Creating and debugging simple programs. • Using logical reasoning to predict the behaviour of simple programs. • Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.

<p>Introduction to Data</p> <p>Learning about what data is and how it can be represented, and using these skills to show the findings of a minibeast hunt.</p>	<ul style="list-style-type: none"> Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Selecting software appropriately. Recognising uses of technology beyond school. <p><i>Cross-curricular links – Maths & Science</i></p>	<p>International Space Station</p> <p>Building on their understanding of how computers sense what is going on around them; children learn how this can be used in the context of keeping astronauts healthy when on board the ISS.</p>	<ul style="list-style-type: none"> Using technology to create and label images and to put data into a spreadsheet. Consider inputs and outputs to understand how sensors work. <p><i>Cross-curricular links – Science</i></p>
<p>Rocket to the Moon</p> <p>Appreciating the value of computers, understanding that they helped us get to the moon.</p>	<ul style="list-style-type: none"> Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Selecting software appropriately. <p><i>Cross-curricular links – Science, DT, Maths & History</i></p>	<p>Stop Motion</p> <p>To tell a story, children explore how to create an animation using stop motion technology.</p>	<ul style="list-style-type: none"> Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Understanding how to use tablets or computers to take photos <p><i>Cross-curricular links – English</i></p>

Bold statements: Sticky Knowledge that must be secured to ensure progression to next year group